UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,613	07/08/2003	Clement Robertson	060707-1350	8269

24504 7590 03/06/2007 THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948	**EXAMINER** KANG, SUK JIN

ART UNIT	PAPER NUMBER
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/615,613	ROBERTSON, CLEMENT
	Examiner	Art Unit	
	Suk Jin Kang	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 July 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>08 July 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>4/15/04 and 8/23/04</u>.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Priority

1.   Applicant's claim for domestic priority under 35 U.S.C. 119 (e) is acknowledged.

Information Disclosure Statement

2.   The information disclosure statements submitted on April 15, 2004 and August

23, 2004 have been considered by the Examiner and made of record in the application.

Drawings

3.   The drawings are objected to according to 37 CFR 1.84(e) and 37 CFR 1.84(l)

because Figures 14-19 include copy machine marks and characters and lines are not

uniformly thick. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are

required in reply to the Office action to avoid abandonment of the application. Any

amended replacement drawing sheet should include all of the figures appearing on the

immediate prior version of the sheet, even if only one figure is being amended. The

figure or figure number of an amended drawing should not be labeled as "amended." If

a drawing figure is to be canceled, the appropriate figure must be removed from the

replacement sheet, and where necessary, the remaining figures must be renumbered

and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date

of an application must be labeled in the top margin as either "Replacement Sheet" or

"New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the

examiner, the applicant will be notified and informed of any required corrective action in

the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4.   The lengthy specification has not been checked to the extent necessary to

determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the

specification.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

6.   **Claims 1-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hann et al. (U.S. Patent # 6,535,520 B1)** in view of **Tzannes et al (U.S. Patent Application Publication # 2003/0091053 A1)**.

Consider **claim 1**, Hann et al. disclose a method for optimizing cell available (CLAV) status polling, the method comprising the steps of: determining a first connection speed having a first associated set of PHY addresses and a second connection speed having a second associated set of PHY addresses (column 1 lines 38-40 and column 3 lines 45-48); arbitrating status polling involving the first connection speed and the second connection speed (column 1 lines 48-53); polling the first and second associated set of PHY addresses to determine a CLAV status for each PHY address (column 3 lines 64-67 and column 4 lines 33-40); determining whether each PHY address of the first and second connection speed requires polling (column 4 lines 4-9); and re-polling at a connection speed wherein at least one PHY address of the connection speed requires polling (column 6 lines 17-21 and column 7 lines 17-21), but does not expressly disclose status polling based at least in part on a polling ratio and polling according to the polling ratio.

In the same field of endeavor, Tzannes et al. disclose status polling based at least in part on a polling ratio and polling according to the polling ratio ([0043] and [0044]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate polling based on the polling ratio as

taught by Tzannes et al. with the method for optimizing polling arbitration as disclosed by Hann et al. for the purpose of improving polling efficiency.

Consider **claim 2**, and **as applied to claim 1 above**, Hann et al., as modified by Tzannes et al., disclose the claimed invention according to claim 1, but does not expressly disclose the method wherein the polling ratio is based on a number of PHY addresses of the first connection speed and a number of PHY addresses of the second connection speed.

Nonetheless, Tzannes et al. also teach the method wherein the polling ratio is based on a number of PHY addresses of the first connection speed and a number of PHY addresses of the second connection speed ([0043] and [0044]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the polling ratio as taught by Tzannes et al. with the method for optimizing polling arbitration as disclosed by Hann et al. for the purpose of improving polling efficiency.

Consider **claim 3**, and **as applied to claim 1 above**, Hann et al., as modified by Tzannes et al., disclose the method further comprising the step of: updating the polling ratio based on a number of PHY addresses of the first connection speed that require polling and a number of PHY addresses of the second connection speed that require polling (figure 3A, column 7 lines 10-21).

Consider **claim 4**, and **as applied to claim 1 above**, Hann et al., as modified by Tzannes et al., disclose the method wherein the step of determining whether each PHY

address requires polling further comprises the step of: determining whether the CLAV

status is an active CLAV status (column 5 lines 7-16 and column 7 lines 10-27).

Consider **claim 5**, and **as applied to claim 4 above**, Hann et al., as modified by

Tzannes et al., disclose the method further comprising the step of determining whether

the PHY address with an active CLAV status has been serviced (column 5 lines 32-37

and column 6 lines 33-36).

Consider **claim 6**, and **as applied to claim 1 above**, Hann et al., as modified by

Tzannes et al., disclose the method wherein PHY addresses with an active CLAV status

that have not been serviced are not re-polled wherein bandwidth is conserved (column

6 lines 25-32).

Consider **claim 7**, and **as applied to claim 1 above**, Hann et al., as modified by

Tzannes et al., disclose the claimed invention according to claim 1, but does not

expressly disclose the method wherein the polling ratio comprises a plurality of polling

ratios.

Nonetheless, Tzannes et al. also teach the method wherein the polling ratio

comprises a plurality of polling ratios ([0043] and [0044]).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to incorporate a plurality of polling ratios as taught by

Tzannes et al. with the method of optimizing polling arbitration as disclosed by Hann et

al. for the purpose of improving polling efficiency.

Consider **claim 8**, and **as applied to claim 7 above**, Hann et al., as modified by

Tzannes et al., disclose the claimed invention according to claim 1, but does not

expressly disclose the method wherein the poll ratios include 0/100, 25/75, 50/50, 75/25, 100/0 wherein each poll ratio represents the first connection speed to the second connection speed.

Nonetheless, Tzannes et al. also teach the method wherein the poll ratios include 0/100, 25/75, 50/50, 75/25, 100/0 wherein each poll ratio represents the first connection speed to the second connection speed ([0043], [0044], and [0046]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a plurality of poll ratios as taught by Tzannes et al. with the method for optimizing polling arbitration as disclosed by Hann et al. for the purpose of improving polling efficiency.

Consider **claim 8**, again, and **as applied to claim 7 above**, Hann et al., as modified by Tzannes et al., disclose the claimed invention according to claim 1, but does not expressly disclose the method wherein the poll ratios include 0/100, 25/75, 50/50, 75/25, 100/0 wherein each poll ratio represents the first connection speed to the second connection speed.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate a diversity of poll ratios representing the first connection speed to the second connection speed. Applicant has not disclosed that poll ratios of 0/100, 25/75, 50/50, 75/25, 100/0 provide an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with a poll ratio of 8/2

([0044]) because it would allow a fast connection disproportionately frequent access to the bus.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a plurality of poll ratios as taught by Tzannes et al. with the method for optimizing polling arbitration as disclosed by Hann et al. for the purpose of improving polling efficiency.

Consider **claim 9**, and **as applied to claim 1 above**, Hann et al, as modified by Tzannes et al., disclose the method wherein one or both of the first connection speed and the second connection speed are software configurable (column 1 lines 54-60).

Consider **claim 10**, and **as applied to claim 1 above**, Hann et al., as modified by Tzannes et al., disclose the method wherein the first connection speed is a fast connection speed and the second connection speed is a slow connection speed (column 1 lines 38-40 and column 3 lines 45-48).

Consider **claim 11**, a system for optimizing cell available (CLAV) status polling, the system comprising: a determining connection speed module for determining a first connection speed having a first associated set of PHY addresses and a second connection speed having a second associated set of PHY addresses (column 1 lines 38-40 and column 3 lines 45-48); an arbitrating status polling module (arbiter, 26, figure 1) for arbitrating status polling involving the first connection speed and the second connection speed (column 1 lines 48-53); a polling module (bus interface device, 14, figure 1) for polling the first and second associated set of PHY addresses to determine a CLAV status for each PHY address (column 3 lines 64-67 and column 4 lines 33-40); a

determining PHY address status module for determining whether each PHY address of

the first and second connection speed requires polling (column 4 lines 4-9); and a re-

polling module for re-polling at a connection speed wherein at least one PHY address of

the connection speed requires polling (column 6 lines 17-21 and column 7 lines 17-21),

but does not expressly disclose status polling based at least in part on a polling ratio

and polling according to the polling ratio.

In the same field of endeavor, Tzannes et al. disclose status polling based at

least in part on a polling ratio and polling according to the polling ratio ([0043] and

[0044]).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to incorporate polling based on the polling ratio as

taught by Tzannes et al. with the system for optimizing polling arbitration as disclosed

by Hann et al. for the purpose of improving polling efficiency.

Consider **claim 12**, and **as applied to claim 11 above**, Hann et al., as modified

by Tzannes et al., disclose the claimed invention according to claim 11, but does not

expressly disclose wherein the polling ratio is based on a number of PHY addresses of

the first connection speed and a number of PHY addresses of the second connection

speed.

Nonetheless, Tzannes et al. also teach wherein the polling ratio is based on a

number of PHY addresses of the first connection speed and a number of PHY

addresses of the second connection speed ([0043] and [0044]).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to incorporate the polling ratio as taught by Tzannes et

al. with the system of optimizing polling arbitration as disclosed by Hann et al. for the

purpose of improving polling efficiency.

Consider **claim 13**, and **as applied to claim 11 above**, Hann et al., as modified

by Tzannes et al., disclose the system further comprising: a poll ratio module for

updating the polling ratio based on a number of PHY addresses of the first connection

speed that require polling and a number of PHY addresses of the second connection

speed that require polling (figure 3A, column 7 lines 10-21).

Consider **claim 14**, and **as applied to claim 11 above**, Hann et al., as modified

by Tzannes et al., disclose the system wherein the determining PHY address status

module further determines whether the CLAV status is an active CLAV status (column 5

lines 7-16 and column 7 lines 10-27).

Consider **claim 15**, and **as applied to claim 14 above**, Hann et al., as modified

by Tzannes et al., disclose the system wherein the determining PHY address status

module further determines whether the PHY address with an active CLAV status has

been serviced (column 5 lines 32-37 and column 6 lines 33-36).

Consider **claim 16**, and **as applied to claim 11 above**, Hann et al., as modified

by Tzannes et al., disclose the system wherein PHY addresses with an active CLAV

status that have not been serviced are not re-polled wherein bandwidth is conserved

(column 6 lines 25-32).

Consider **claim 17**, and **as applied to claim 11 above**, Hann et al., as modified by Tzannes et al., disclose the claimed invention according to claim 11, but does not expressly disclose wherein the polling ratio comprises a plurality of polling ratios.

Nonetheless, Tzannes et al. also teach wherein the polling ratio comprises a plurality of polling ratios ([0043] and [0044]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a plurality of polling ratios as taught by Tzannes et al. with the system of optimizing polling arbitration as disclosed by Hann et al. for the purpose of improving polling efficiency.

Consider **claim 18**, and **as applied to claim 17 above**, Hann et al., as modified by Tzannes et al., disclose the claimed invention according to claim 17, but does not expressly disclose the system wherein the poll ratios include 0/100, 25/75, 50/50, 75/25, 100/0 wherein each poll ratio represents the first connection speed to the second connection speed.

Nonetheless, Tzannes et al. also teach the system wherein the poll ratios include 0/100, 25/75, 50/50, 75/25, 100/0 wherein each poll ratio represents the first connection speed to the second connection speed ([0043], [0044], and [0046]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a plurality of poll ratios as taught by Tzannes et al. with the system of optimizing polling arbitration as disclosed by Hann et al. for the purpose of improving polling efficiency.

Consider **claim 18**, again, and **as applied to claim 17 above**, Hann et al., as

modified by Tzannes et al., disclose the claimed invention according to claim 17, but

does not expressly disclose the system wherein the poll ratios include 0/100, 25/75,

50/50, 75/25, 100/0 wherein each poll ratio represents the first connection speed to the

second connection speed.

At the time the invention was made, it would have been obvious to a person of

ordinary skill in the art to incorporate a diversity of poll ratios representing the first

connection speed to the second connection speed. Applicant has not disclosed that poll

ratios of 0/100, 25/75, 50/50, 75/25, 100/0 provide an advantage, is used for a particular

purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would

have expected Applicant's invention to perform equally well with a poll ratio of 8/2

([0044]) because it would allow a fast connection disproportionately frequent access to

the bus.

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to incorporate a plurality of poll ratios as taught by

Tzannes et al. with the system of optimizing polling arbitration as disclosed by Hann et

al. for the purpose of improving polling efficiency.

Consider **claim 19**, and **as applied to claim 11 above**, Hann et al., as modified

by Tzannes et al., disclose the system wherein one or both of the first connection speed

and the second connection speed are software configurable (column 1 lines 54-60).

Consider **claim 20**, and **as applied to claim 11 above**, Hann et al., as modified

by Tzannes et al., disclose the system wherein the first connection speed is a fast

connection speed and the second connection speed is a slow connection speed

(column 1 lines 38-40 and column 3 lines 45-48).

Consider **claim 21**, a computer readable medium (arbiter, 26, figure 1), the

computer readable medium comprising a set of instructions for optimizing cell available

(CLAV) status polling and being adapted to manipulate a processor to: determine a first

connection speed having a first associated set of PHY addresses and a second

connection speed having a second associated set of PHY addresses (column 1 lines

38-40 and column 3 lines 45-48); arbitrate status polling involving the first connection

speed and the second connection speed (column 1 lines 48-53); poll the first and

second associated set of PHY addresses to determine a CLAV status for each PHY

address (column 3 lines 64-67 and column 4 lines 33-40); determine whether each PHY

address of the first and second connection speed requires polling (column 4 lines 4-9);

and re-poll at a connection speed wherein at least one PHY address of the connection

speed requires polling (column 6 lines 17-21 and column 7 lines 17-21), but does not

expressly disclose status polling based at least in part on a polling ratio and polling

according to the polling ratio.

In the same field of endeavor, Tzannes et al. disclose status polling based at

least in part on a polling ratio and polling according to the polling ratio ([0043] and

[0044]).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to incorporate polling based on the polling ratio as

taught by Tzannes et al. with the computer readable medium comprising instructions for

optimizing polling arbitration as disclosed by Hann et al. for the purpose of improving

polling efficiency.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to

Applicant's disclosure.

      a) **(U.S. Patent # 6,449,655 B1)** disclose the METHOD AND APPARATUS FOR

COMMUNICATION BETWEEN NETWORK DEVICES OPERATING AT DIFFERENT

FREQUENCIES.

      b) **(U.S. Patent # 5,659,787)** disclose DATA COMMUNICATION NETWORK

WITH HIGHLY EFFICIENT POLLING PROCEDURE.

8.   Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed**

to:

> Commissioner for Patents
> P.O. Box 1450
> Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

> Customer Service Window
> Randolph Building
> 401 Dulany Street
> Alexandria, VA 22314

9.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Suk Jin Kang whose telephone number is (571) 270-1771. The examiner can normally be reached on Monday - Friday 8:00-5:00 EST.
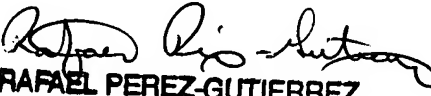
If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Suk Jin Kang
S.J.K./sjk

February 13, 2007

RAFAEL PEREZ-GUTIERREZ
SUPERVISORY PATENT EXAMINER
3/1/07